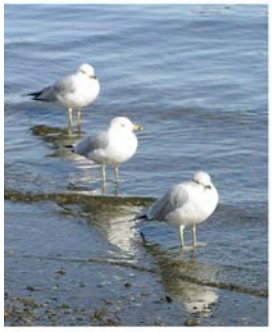
Small Habitat Restoration Program

Building effective and inexpensive projects that enhance aquatic ecosystems

SHRP

Annual Report 2005



In 2005 the Small Habitat Restoration Program (SHRP) continued to build low-cost habitat restoration projects to enhance and restore streams and wetlands. SHRP worked to achieve this goal through habitat assessment, habitat restoration, scientific monitoring, and by working with Basin Stewards, watershed groups, providing volunteer opportunities and obtaining grant support. Since 1995 SHRP has performed over 200 projects in the White, Green, Puget, Cedar-Sammamish-Lake Washington and Snoqualmie River basins.

The SHRP Program works closely with the Basin Steward Program to identify projects and restoration priorities within King County's watersheds. This ensures that SHRP projects fit into the broader plans for watershed restoration and build on the successes of other restoration and stewardship efforts.

In 2005 SHRP activities on 60 restoration projects improved streams, wetlands, and riparian buffers in the urban and rural service areas of unincorporated King County. SHRP leveraged public funds with grants, community volunteer planting events, and partnerships between landowners, local, state, and federal agencies. The SHRP Web site (http://dnr.metrokc.gov/wlr/cposa/shrp/) includes an on-line project application and technical assistance with guidelines for designing, planting, and maintaining habitat restoration projects.

King County
Department of Natural Resources and Parks
Water and Land Resources Division
Small Habitat Restoration Program
http://dnr.metrokc.gov/wlr/cposa/shrp/

Urban Projects in 2005

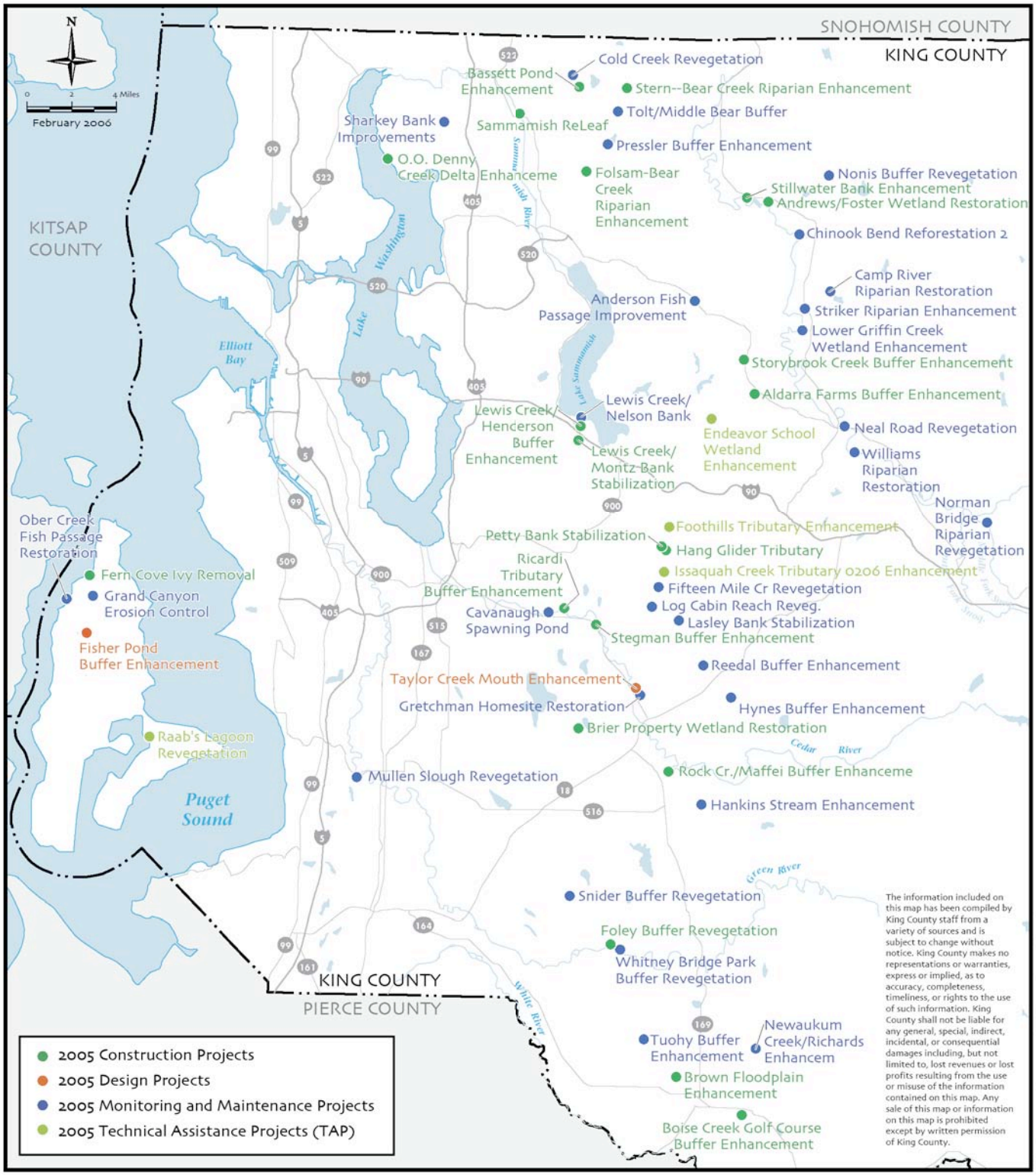
The Small Habitat Restoration Program (SHRP) had 35 active habitat restoration projects in the **Urban** Service Area, including 14 projects that were in the construction phase, one project in the design and permitting phase, 14 projects that were maintained and monitored, and six technical assistance projects. Within the Urban Service Area, SHRP projects improved a variety of habitats, including:

- **3,590** lineal feet of streambank revegetated and stabilized with native trees and shrubs and biotechnical slope stabilization methods
- **9** acres of stream buffer restored by removing invasive weeds and planting native shrubs and trees;
- **500** square feet of wetland restored by removing fill, planting native shrubs and trees and removing invasive weeds;
- **3000** square feet of upland habitat enhanced by removing invasive weeds and planting native shrubs and trees.

Rural Projects in 2005

The Small Habitat Restoration Program (SHRP) had 25 active habitat restoration projects in the **Rural** Service Area, including seven projects that were in construction phase, one project in the design and permitting phase, two technical assistance projects, and 15 projects that were maintained and monitored.

2005 SHRP Construction, Design, Monitoring & Maintenance, and Technical Assistance Projects



Within the Rural Service Area, SHRP projects improved a variety of habitats, including:

- **30** feet of culvert and road removed to restore fish passage
- **2,385** lineal feet of streambank revegetated and stabilized with native trees and shrubs and biotechnical slope stabilization methods
- **1.3** acres of wetland restored by planting native shrub and trees and removing invasive weeds
- **5.2** acres of stream and wetland buffer restored by planting with native shrubs and trees and removing invasive weeds.

Mission

The Small Habitat Restoration Program (**SHRP**) constructs small-scale habitat restoration projects in stream corridors and wetlands. The goal of the SHRP program is to restore habitat-forming processes for fish and wildlife. Projects include stabilizing eroding streambanks, restoring fish access to upstream habitat, installing livestock fences, controlling invasive weeds, planting native vegetation and providing technical assistance to landowners. Individual project costs typically range from $5,000 to $50,000. Projects are constructed on private or public property as long as they provide benefits to the public at large.

Urban Service Area Projects

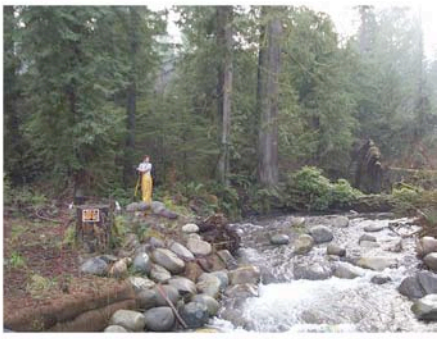
Foley Buffer Enhancement (Private Property):

WCC crews planted 4 acres along 1,000 lineal feet of the Middle Green River with 2,500 red alder, cottonwood, Sitka spruce and crabapple saplings. A drip irrigation system was installed during the summer, and conifer underplanting will follow in one or two years.

Hang Glider Tributary Enhancement (KC Ownership):

WCC crews removed invasive blackberry, English ivy and Japanese knotweed, and planted 2,000 sq. feet of stream buffer with native trees in the buffer of the Hang Glider tributary (trib 0203) to Issaquah Creek. This follows work completed in 2004, when an eroding streambank was stabilized using biotechnical treatments including coir logs, coir lifts and willow live-staking along 400 lineal feet of the creek.

Rock Creek/ Maffei Buffer Enhancement (Private Property):



SHRP planted conifers and other native vegetation on 30,000 square feet (0.7 acres) of the buffer of Rock Creek. This area lost a large number of mature conifers due to a windstorm in 2004. The project removed and relocated some of the resulting brush and debris to increase instream habitat.

Ricardi Tributary Buffer Enhancement (Private Property):

SHRP enhanced 14,600 square feet (0.3 acres) of riparian buffer along 160 lineal feet of the Ricardi tributary to the Cedar River by removing invasive species and installing cardboard sheet mulch, diverse native vegetation and a drip irrigation system.

Sammamish ReLeaf Buffer Enhancement (Public Property):

WCC crews cleared Scots broom and other invasive species from the buffer of the Sammamish River to prepare for a volunteer planting organized by the City of Woodinville. Approximately 5000 square feet of buffer along 500 lineal feet of river bank was improved.

Stegman Buffer Enhancement (Private Property):

SHRP worked with the Neighborhood Drainage Assistance Program to address a drainage issue and stabilize an eroding bank of the Cedar River. Invasive butterfly bush and blackberries were cut and removed from 225 lineal feet of steep bank and native vegetation was planted for shade and soil stabilization. Further invasive species removal will be done as installed vegetation matures and the bank stabilizes.

O.O. Denny Creek Delta Enhancement (Public Ownership):

Working with the Denny Creek Neighborhood and the Finn Hill Park and Recreation District, SHRP protected and enhanced a 3,000 square foot riparian buffer at the mouth of Denny Creek. Problems included plant destruction and streambank erosion caused by park users and dogs, and encroachment of invasive species such as yellow iris and reed canarygrass. These problems were addressed by installing a fence across the stream that included a specially designed flapper gate, removing invasive species and installing native plantings. A drip irrigation system (paid for by the Seattle Parks District) was designed and installed by SHRP.

Lewis Creek Montz Bank Stabilization and Habitat Enhancement (Private Property):

SHRP staff designed and constructed 125 lineal feet of biotechnical slope stabilization on Lewis Creek. The property owner contacted SHRP after a contractor he hired failed to get permits for a conventional approach to stabilizing a rapidly eroding bank using rock. The project included the placement of in-stream large woody debris and native plantings on 5,000 square feet of riparian buffer to improve aquatic and terrestrial wildlife habitat.

Lewis Creek Buffer Enhancement / Henderson (Private Property):

Crews removed invasive blackberry and planted native shrubs on 3,200 square feet of buffer along 125 lineal feet of Lewis Creek, upstream of the Nelson property.

Petty Bank Stabilization (Private Property):

SHRP and WCC crews planted 3,250 square feet of buffer along 130 feet of Issaquah Creek to help reduce erosion that threatened a fiber optic cable and local road. This followed an earlier project in which "roughness" trees (20 foot conifers with intact branches) were anchored to the face of the eroding streambank to slow flows, reduce erosion and trap sediment.

Brier Property Wetland Restoration (Non-Profit Ownership):

SHRP designed and supervised the restoration of a wetland area that had been illegally filled for a parking area. The site was contoured to provide hydrological connection between two sections of a wetland that had been isolated from one another. Planting in early 2006 will help to restore about 500 square feet of wetland.

Folsam—Bear Creek Riparian Enhancement (Private Ownership):

WCC crews removed blackberries and Japanese knotweed and planted native trees and shrubs on 4,225 square feet of buffer along 150 feet of Bear Creek.

Bassett Pond Enhancement (Public Ownership):

SHRP and EarthCorps enhanced about 3 acres of upland in the Cold Creek Natural Area by removing blackberry and installing 300 plants.

Stern—Bear Creek Riparian Enhancement (Private Ownership):

SHRP planted and mulched native trees and shrubs on 2,850 square feet of buffer along 195 feet of Bear Creek. About 400 square feet of Japanese knotweed was injected with herbicide.

Urban Service Area Technical Assistance

Issaquah Creek Tributary 0206 Enhancement (Private Property):

SHRP provided technical assistance on removal of knotweed species to property owners along Issaquah Creek Tributary 0206.

Issaquah Creek Basin Steward Assistance (Public and Private Property):

SHRP provided technical assistance to the Issaquah Creek Basin Steward on project scoping and feasibility on several properties. Some properties have failing banks in need of stabilization and others are candidates for public acquisition.

Stewardship Partners Technical Assistance:

SHRP provided a bridge design for a restoration project to Stewardship Partners (a non-profit organization dedicated to fish and wildlife conservation and restoration activities.) Stewardship Partners will use the design to construct a small stream crossing.

Beavers and Flow Devices (Private Properties):

SHRP provided technical assistance to urban property owners on options for dealing with beavers and their impacts, including protecting vegetation and installing flow devices that convey flow through beaver dams without draining the wetlands on which the beavers (and fish) depend.

Foothills Tributary Enhancement (Private Property):

SHRP provided technical assistance for a church that wished to enhance a small stream that runs through their property. Staff provided information on invasive removal, erosion control, bioengineering, and appropriate native plant species and sources. Further onsite instruction and assistance may be provided when the project is implemented.

Endeavor School Wetland Enhancement (Private Property):

SHRP provided technical assistance for a school that wished to utilize its resources to enhance a swale and wetland buffer on its grounds. Staff worked with the teachers and administrators to develop a planting and work plan. The school intends to use the restored areas to teach classes on natural science and biology.

Urban Service Area Project Design, Permitting and Planning

Taylor Creek Mouth Enhancement (Public Ownership):

Mouth of Taylor Reach Natural Area is a KC DNRP Ecological Land, managed for the protection of its ecological value, with appropriate public access. SHRP is designing a project to widen the stream buffer by establishing native vegetation and remove invasive species. Himalayan Blackberry will be cut and covered with either cardboard or landscape fabric, native species will be planted in and around the cardboard or fabric, small areas of Japanese Knotweed will be injected, covered, or dug up, and English Ivy will be removed from larger trees. This project follows the site management guidelines for this Ecological Land as set forth by KC DNRP.

Urban Service Area Monitoring and Maintenance

- Lewis Creek/Nelson Bank Enhancement (Private Property)
- Pressler Buffer Enhancement (Private Property)
- Lasley Bank Stabilization (Private Ownership)
- Tolt/Middle Bear Buffer Enhancement (Seattle Public Utilities Property)
- Whitney Bridge Park Buffer Enhancement (KC Ownership)
- Hynes Buffer Enhancement (Private Ownership)
- Hankins Stream Enhancement (Private Ownership)
- Cavanaugh Spawning Pond Enhancement (KC Ownership)
- Cold Creek Revegetation (KC Ownership)
- Fifteen Mile Creek Revegetation (Private Ownership)
- Gretchman Homesite Restoration (KC Ownership)
- Mullen Slough Revegetation (Public Ownership)

- Sharkey Bank Improvements (Private Ownership)
- Log Cabin Reach Revegetation (Private Ownership):

Rural Service Area Projects

Andrew/Foster Wetland Restoration Project (Private Ownership):

SHRP removed two 30 foot long culverts and the former road bed from the outlet of Snoqualmie Wetland #66. The new channel was contoured to resemble natural conditions. Project will improve fish passage from the Snoqualmie River into the wetland and provide rearing and refuge habitat. Native plants will be planted on the channel banks in the winter of 2006.

Aldarra Farms Buffer Enhancement (Private Ownership):

SHRP planted tall trees in 30,000 square feet of buffer along Patterson Creek. The planting will provide wildlife habitat, shade to the creek and refuge for salmon in this area formerly dominated by reed canary grass.

Fern Cove Ivy Removal (Vashon-Maury Island Land Trust):

WCC crews removed English ivy from an isolated 5,000 square foot patch at the mouth of Shinglemill Creek in the Fern Cove Natural Area on Vashon Island. Planting of the cleared area with native species is scheduled for March of 2006.

Brown Floodplain Enhancement (Private Ownership):

SHRP and Earthcorps installed an additional 300 trees and shrubs and 600 willow stakes on Newaukum Creek. This project originally began in 2004. An additional 28,750 square feet of buffer along 475 lineal feet of stream was also restored.

Stillwater Bank Enhancement (Private Ownership):

WCC crews and SHRP laid weed fabric and planted alder and willow on the right bank of the Snoqualmie River to help reduce severe bank erosion at the Stillwater Natural Area. The 20-foot high bank had no vegetation on it prior to the 30,000 square foot planting along 300 feet of river bank. More alders and conifers will be added in the winter of 2006.

Storybrook Creek Buffer Enhancement (Private Ownership):

SHRP installed native plants on 2.7 acres of buffer along 800 lineal feet of the existing and future Storybook Creek channels. (A project to improve the stream by moving it from the existing ditch-like channel it currently occupies into a more natural channel is in the planning phase.) The project will continue next year with further plantings. Storybook Creek, a tributary to Patterson Creek, is heavily used by coho salmon for spawning and rearing.

Boise Creek Golf Course Buffer Enhancement (KC Ownership):

SHRP and Earthcorps controlled knotweed and Himalayan blackberry by planting 14,650 square feet of riparian buffer along 460 lineal feet of Boise Creek within a City of Enumclaw-owned golf course.

Rural Service Area Technical Assistance

Beavers and Flow Devices (Private Properties):

SHRP provided technical assistance to rural property owners on options for dealing with beavers and their impacts, including protecting vegetation and installing flow devices that convey flow through beaver dams without draining the wetlands on which the beavers (and fish) depend.

Raab's Lagoon Revegetation (Private Properties):

SHRP staff provided advice and literature to two private property owners on Raab's Lagoon on Maury Island. The property owners are interested in restoring their portions of the shoreline of this unusual water body.

Rural Service Area Project Design, Permitting and Planning

Fisher Pond Buffer Enhancement (Vashon-Maury Island Land Trust):

A WCC crew, in conjunction with volunteer labor, cleared about two acres of Scot's broom from the buffer of a pond at the headwaters to Shinglemill Creek in 2004. The area will be planted in March of 2006.

Rural Service Area Monitoring and Maintenance

- Snider Buffer Revegetation (Private Ownership)
- Camp River Riparian Restoration (Private Ownership)
- Lower Griffin Creek Wetland Enhancement (Private Ownership)
- Grand Canyon Erosion Control (Vashon-Maury Island Land Trust Property)

- Ober Creek Fish Passage Restoration (Private Ownership)
- Reedal Buffer Enhancement (KC Easement, Private Ownership)

- Tuohy Buffer Enhancement (Private Ownership)
- Norman Bridge Riparian Revegetation (KC Ownership)
- Anderson Fish Passage Improvement (Private Ownership)
- Williams Riparian Restoration (Private Ownership)
- Newaukum Creek/Richards Enhancement (Private Ownership)
- Nonis Buffer Revegetation (Private Ownership)
- Striker Riparian Enhancement (Private Property)
- Neal Road Revegetation (KC Ownership)
- Chinook Bend Reforestation Phase 2 (KC Ownership)

To Submit a project application contact **Mason Bowles** at **206-296-8376** or mason.bowles@metrokc.gov. Or check out our Web site at http://dnr.metrokc.gov/wlr/cposa/shrp/

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